

REMARKS

In the last Office Action claims 1, 4-6, 9 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by Poussin (USP 5,202,097). Claims 2, 3, 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Poussin as applied to claims 1, 4-6, 9 and 10.

Claims 1 and 6 have been amended to more clearly define the present invention. Reconsideration and allowance of the application are respectfully requested in view of the following remarks.

According to the present invention the unperforated cylindrical wall is supported by and extends from the upper end (8a) of the gas outlet wall along a perforated portion of the same and for a predetermined length in said catalytic bed so as to define a free-space between the perforated gas outlet wall (8) and the unperforated wall (15) for the passage of a part of the gas leaving the catalytic bed (6) through said portion of the gas outlet wall (8) facing the free-space (16).

In Poussin it is clearly shown that the metal cap (10) surrounds the unperforated upper part of a cylindrical central stack (9) as shown in figures 1 and 4-7. In other words the unperforated cylindrical wall of the cap (10) which would be somewhat equivalent to the unperforated cylindrical wall (15) of the present invention faces the unperforated top portion of the stack (9). Furthermore, in Poussin, the cap (10) extends from an upper end of the stack (9) downwardly to a layer (19) of flexible material which covers and bounds the catalytic bed (8) "see column 2, lines 30-42; column 7, lines 46-48; figure 1". In other words the cap (10) of Poussin does not extend for a predetermined length in the catalyst bed (8).

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Moreover, Poussin does not provide a free-space between the cap (10) and the stack (9) contrary to the statements by the Examiner in the last Office Action. In fact, as stated at column 7, lines 21-22, cap (10) seals the stack with respect to the charge which would clearly imply the lack of any space being defined between the cap and the portion of the stack. The discernable space between the cylindrical wall of the cap (10) and the stack (9) shown in figures 1 and 6 appear to be an extreme schematic representation of the apparatus in order to better distinguish two adjacent elements. The space shown in Figures 1 and 6 is clearly missing in figures 4, 5, 7 and 11. More importantly there are no perforations in the stack (9) in the vicinity of the cylindrical wall of the cap (10) which would communicate with the space shown in figures 1 and 6. Thus the space is completely useless whereas in the claimed invention the space provides the essential role for the passage of a part of the gas leaving the catalytic bed through the portion of the gas outlet wall (8) facing the free-space. There is nothing which suggests such a construction in Poussin. Therefore Poussin does not disclose or even suggest a method or reactor wherein part of the reaction prize can exit the catalytic bed (8) through a portion of the stack (9) surrounded by the cap (10).

In view of the foregoing distinctions it is clear that claims 1-10 inclusive are not anticipated by Poussin nor obvious in view of the teachings of Poussin. Therefore it is respectfully requested that claims 1-10 inclusive be allowed and the application passed to issue forthwith.

If for any reason the Examiner is unable to allow the application on the next Office Action and feels that an interview would be helpful to resolve any remaining issue, the Examiner

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is respectfully requested to contact the undersigned attorney for the purpose of arranging such an interview.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (~~Twice~~ Thrice Amended) A method for in-situ modernization of a heterogeneous synthesis reactor, including an external shell comprising at least a catalytic bed (6) provided with a gas inlet perforated cylindrical wall (7) and a gas outlet perforated cylindrical wall (8), said method comprising the steps of:

providing an unperforated cylindrical wall (15) coaxial to said gas outlet wall (8) in said catalytic bed (6), said unperforated cylindrical wall (15) extending from an upper end (8a) of said gas outlet wall (8) ~~for a~~ along a perforated portion of the same and for a predetermined length in said catalytic bed, so as to define a free-space (16) between the perforated gas outlet wall (8) and the unperforated wall (15), for the passage of a part of the gas leaving said catalytic bed (6) through said portion of the gas outlet wall (8) facing said free-space (16);

providing means for closing an upper end of said free-space (16) between the unperforated wall (15) and the gas outlet wall (8), in proximity of the upper end (8a) of the wall (8), preventing thereby a bypass of said catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor, respectively.

6. (Twice Amended) A heterogeneous synthesis reactor comprising:
an external shell (2);

at least a radial or axial-radial catalytic bed (6), provided with a gas inlet perforated cylindrical wall (7) and a gas outlet perforated cylindrical wall (8), extended in said shell (2);

characterized in that it further comprises in said catalytic bed:

an unperforated cylindrical wall (15) coaxial to said gas outlet wall (8) in said catalytic bed (6), said unperforated cylindrical wall (15) extending from an upper end (8a) of said gas outlet wall (8) ~~for a~~ along a perforated portion of the same and for a predetermined length in said catalytic head (6), so as to define a free-space (16) between the perforated gas outlet wall (8) and the unperforated wall (15), for the passage of a part of the gas leaving said catalytic bed (6) through said portion of the gas outlet wall (8) facing said free-space (16);

means of closing said free-space (16) between the unperforated wall (15) and the gas outlet wall (8), in proximity of the upper end (8a) of the latter, preventing thereby a bypass of said catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor respectively.